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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/821,796	03/30/2001	Yves Le Du	ATOCM-209	4998

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EXAMINER

JACKSON, MONIQUE R

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 10/04/2002

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/821,796

Applicant(s) 

LE DU ET AL.

Examiner

Monique R Jackson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-35 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 16-35 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 March 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. The preliminary amendment filed 3/30/01 has been entered. Claims 1-15 have been canceled. New claims 16-35 have been added. Claims 15-35 are pending in the application.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: external layer (1). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claim 18 is objected to because of the following informalities: the term “or” should be inserted between “metal layer” and “metallized-substrate layer”. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 16-26 and 31-35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 16 and 33-35 recite the limitation “polypropylene-based” however it is unclear as to what is meant to be encompassed by the term “based”.

6. Claims 18-19 and 34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which

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applicant regards as the invention. Claims 18 and 34 recite the limitation “heat treating being at a temperature below the melting point of the polypropylene layer” however it is noted that the structure as instantly claimed comprises two polypropylene layers and hence it is unclear as to which polypropylene is being referred to in the above limitation.

7. Claims 20-26, 31-32 and 35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 20-22 include a parenthetical expression however it is unclear whether the limitations in the parenthesis are part of the claimed invention. See MPEP § 2173.05(d). It is also noted that Claim 20 recites a binder comprising three components wherein component B – a stretchable polypropylene could read on component C – a functionalized polypropylene. A claim in which one ingredient is defined so broadly that it reads upon a second does not meet the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Ferm and Boynton*, 162 USPQ (BdPatApp & Int 1969.)

8. Claim 23 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 23 recites the limitation “a blend of copolymers (A), an ethylene/alkyl (meth)acrylate...” however it is unclear whether the blend includes the blend of copolymers (A) and additionally the copolymers listed or whether the blend only includes the two copolymers listed which are representative examples of copolymers (A).

9. Claims 24-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 24-26 recite a portion of polypropylene (C) in the form of a percentage but

does not indicate the basis for this calculation, and hence it is unclear whether the percentages are weight or volume, etc. or whether they are based on the total resin content of the binder, the total weight of the binder, etc.

10. Claim 24 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 24 recites the limitation "according to claim 20, in which the proportion of polypropylene (C) of the binder is between 1.5 and 6" however it is noted that Claim 20 recites that the binder comprises 2 to 30%. Therefore, Claim 24 appears to contradict Claim 20 given that values between 1.5 and 2 of Claim 24 do not fall within the limitations of Claim 20.

11. Claims 27-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 27 recites the limitation "a structure according to claim 15" however it is noted that claim 15 has been cancelled and is no longer pending in the application. Therefore, it is unclear as to what is meant to be encompassed by these claims.

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13. Claims 16-17 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 04-198243 (JP'243). JP'243 teaches a polypropylene adhesive composition for preparing multilayered metal-polypropylene laminates on an extrusion laminator such as laminated steel

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sheet wherein the polypropylene adhesive comprises 50-90wt% of unmodified polypropylene (inherently stretchable) and modified polypropylene, 5-20wt% of low density polyethylene and 5-30wt% of a copolymer of ethylene and an unsaturated carboxylic acid such as acrylic acid or its derivative including acid esters (Derwent Abstract; Abstracts of Japan; Page 3; Examples; Table 1.) The modified polypropylene is a grafted polypropylene with a 0.05-0.5 wt% acid or acid anhydride groups such as maleic anhydride (Abstracts.) JP'243 further teach several examples wherein the unmodified polypropylene ranges from 40-65wt% and the modified polypropylene ranges from 5-30wt% of the total adhesive composition (Table 1) as in instant claim 20 wherein the Examiner takes the position that the composition taught by JP'243 would have the same melt index as the instant claimed invention given that the compositions are the same. Further, with regards to the product-by-process limitations, it is noted that product-by-process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. "Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior art product was made by a different process." In re Thorpe, 227 USPQ 964,966 (Fed. Cir. 1985.) Therefore, in terms of the extrusion rate and heat treatment, the Examiner takes the position that these limitations are process limitations wherein the invention taught by JP'243 appears to be the same invention as instantly claimed and hence anticipates the instant invention.

14. Claims 16-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Hirota et al (USPN 4,403,710.) Hirota et al teach an easily-openable heat seal lid comprising a metal foil-

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resin film laminate wherein delamination is prevented between the metal foil, such as aluminum foil, and the resin film, such as a polypropylene inner resin film, by using a heat-sealable adhesive resin having excellent adhesion to the metal foil such that the laminate can be subjected to sterilization treatment (Abstract; Col. 1, lines 62-67; Col. 2, lines 3-7 and 17-27.) The heat sealable adhesive layer is a carbonyl group containing thermoplastic resin including copolymers of olefins with carbonyl group containing monomers such as ethylene/vinyl acetate, copolymers of olefins and carboxylic acid ester or acid anhydrides like maleic anhydride polypropylene (Col. 3, lines 18-23, lines 53-59; Col. 4, lines 35-39; Col. 6, lines 3-22.) Hirota et al teach that the multilayer film can be formed by various methods including coating the modified olefin resin on the metal foil and then applying a preformed olefin resin film on the melt and then fusion bonding or by coextruding and applying the polymer layers to the metal foil, wherein the propylene resin is fusion-bonded to the metal foil through the acid modified propylene resin composition and the coated metal foil can be subject to heating by high frequency induction heating, infrared heating or hot air furnace heating (Col. 6, lines 45-Col. 7, lines 26; Col. 8, lines 31-67, particularly 62-67.) Hirota et al further teach that the inner propylene resin layer is preferably formed from isotactic polypropylene resin having a melt index of 1 to 100g/min (Col. 7, lines 14-23), wherein the Examiner takes the position that the isotactic polypropylene resin taught by Hirota et al is inherently stretchable and inherently has a melting point above the melting point of the acid modified ethylene or propylene resin and that the peel force between the layers would be the same as instantly claimed given that the materials are the same as instantly claimed. In terms of the extrusion rate, the Examiner takes the position that this limitation is a process limitation that does not materially affect the composite as instantly

claimed and therefore, the invention taught by Hirota et al appears to be the same invention as instantly claimed and anticipates the instant invention.

15. Claims 27-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Hirota et al, wherein for examination purposes, the Examiner has assumed that Claim 27 and 29 depend on new Claim 16 not cancelled Claim 15. The teachings of Hirota et al are discussed above. Hirota et al further teach that the lid material may be provided as a cover on a package comprising a layer of polypropylene wherein the metal foil is aluminum, as stated above (Figures; Examples), and wherein the Examiner takes the position that the package would inherently be sterilizable and resistant to food acids and high-performance solvents and greases given that the composite structure comprises the same material layers as instantly claimed.

16. Claims 16-18 and 27-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Trouilhet (USPN 6,224,973) wherein for examination purposes, the Examiner has assumed that Claim 27 and 29 depend on new Claim 16 not cancelled Claim 15. Trouilhet teaches a multilayer sheet suitable as a sealable or peelable sheet specially used for closing foodstuff containers wherein the multilayer sheet comprises a tie-layer between a substrate layer, such as an aluminum foil, and a seal or peel-seal layer, such as a polypropylene layer, wherein the tie-layer comprises a polyolefin with acid or anhydride, grafted or copolymerized (Abstract; Columns 1-2; Examples; particularly example 10.) Trouilhet teaches that the multilayer sheet is most preferably prepared by extrusion or coextrusion coating with examples utilizing an extrusion rate of 100m/min and greater (Col. 2, lines 29-39 and 65-67; Col. 3, lines 8-43; Examples.) Trouilhet teaches a specific example comprising a peelable retortable (*sterilizable*) lid for trays with polypropylene as the inner layer of the trays wherein the lid comprises an

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aluminum foil adjacent a polypropylene extrudable adhesive containing grafted maleic anhydride as the tie layer and a coextruded filled polypropylene applied at an extrusion rate of 180 m/min, wherein the Examiner takes the position that polypropylene inherently has a higher melting point than the maleic anhydride modified polypropylene and is inherently "stretchable" and that the peel force between the layers would be the same as instantly claimed given that the materials are the same as instantly claimed. Trouilhet also teaches that the multilayer sheet provides improvements of the prior art lids including resistance to foodstuffs and food oils (Col. 2, lines 1-13; Examples.) With regards to heat treatment, the Examiner takes the position that this limitation is a process limitation that does not materially affect the multilayer film and hence the invention taught by Trouilhet appears to be the same invention as instantly claimed and hence anticipates the instant invention.

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. Claims 20-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirota et al in view of Theisen et al (USPN 5,206,051) and Kiang et al (USPN 5,367,022.) The teachings of Hirota et al are discussed above. Though Hirota et al teach that the heat sealable resin adhesive layer may be selected from acid-modified polyolefins obtained by graft-polymerizing an ethylenically unsaturated carboxylic acid such as acrylic acid or an acid anhydride such as maleic anhydride to a polyolefin such as polyethylene or polypropylene or ethylene-propylene

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copolymers; and copolymers of vinyl ester with an olefin such as ethylene vinyl acetate. Hirota et al does not specifically teach the resin composition as instantly claimed. However, Hirota et al teach that the graft polymerized, modified or polar olefin copolymers are functional equivalents in terms of the adhesive layer. It is also noted that Theisen et al and Kiang et al also teach that these olefin adhesive materials present in polyolefin blends each provide improved adhesion properties between polypropylene and other polar substrates such as metal substrates, wherein the content of the functional group is a result-effective variable affecting the adhesion properties of the resulting blend. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to utilize any of these functionally equivalent functionalized olefin polymers or any mixture thereof to provide the desired adhesion between the polypropylene and the metal substrate taught by Hirota et al wherein one skilled in the art would have been motivated to utilize routine experimentation to determine the optimum functional group content to provide the desired adhesive properties.

19. Claims 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirota et al. The teachings of Hirota et al are discussed above. Hirota et al do not teach the extrusion coating rate as instantly claimed, however, it is a well known principle in the art that the extrusion rate is a result-effective variable affecting the thickness of the resulting extruded layer. Therefore, given that Hirota et al clearly teach that the thickness of the polymers may vary and that the thickness of the layers is a result-effective variable (Col. 6, lines 25-31; Col. 7, lines 21-26; Col. 8, lines 28-30), one having ordinary skill in the art would have been motivated to utilize routine experimentation to determine the optimum or workable range for the extrusion coating rate to provide the desired layer thickness for a particular end use of the invention taught by Hirota et al.

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Further, though Hirota et al does not specifically teach the heat treating at a temperature as instantly claimed, it would have been obvious to one having ordinary skill in the art to determine the optimum or workable heat treating temperature based on the polymer materials utilized wherein the heat treating temperature directly affects the crystallization and dimensional stability of the extruded layer.

20. Claims 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirota et al in further view of Trouilhet. The teachings of Hirota et al are discussed above. As stated in the previous paragraph, Hirota et al does not teach an extrusion rate as instantly claimed, however, it is known in the art that the extrusion rate affects the thickness or coating weight of the extruded layer as clearly taught by Trouilhet, wherein Trouilhet utilizes extrusion rates above 100 m/min to provide a desirable thickness of an extruded tie layer between a polypropylene layer and a metal foil substrate. Therefore, given that Hirota et al clearly teach that the thickness of the polymers may vary and that the thickness of the layers is a result-effective variable, one having ordinary skill in the art would have been motivated to utilize routine experimentation to determine the optimum or workable range for the extrusion coating rate as taught by Trouilhet to provide the desired layer thickness for a particular end use of the invention taught by Hirota et al. Further, though Hirota et al does not specifically teach the heat treating at a temperature as instantly claimed, it would have been obvious to one having ordinary skill in the art to determine the optimum or workable heat treating temperature based on the polymer materials utilized wherein the heat treating temperature directly affects the crystallization and dimensional stability of the extruded layer.

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21. Claims 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Trouilhet in view of Hirota et al. The teachings of Trouilhet are discussed above. Trouilhet does not teach heat treating the extrusion coated aluminum foil at a temperature as instantly claimed. However, heat treating is a known process in the art to improve the dimensional stability of the extruded layers, wherein, as discussed in detail above, Hirota et al specifically teach that an extrusion coated metal substrate can be subjected to heat treatment by infrared radiation, hot air or induction heating to fusion bond and set the extruded layers to the metal substrate. Though Hirota et al does not specifically teach the heating temperature as instantly claimed, it would have been obvious to one having ordinary skill in the art to determine the optimum or workable heat treating temperature based on the polymer materials utilized wherein the heat treating temperature directly affects the crystallization and dimensional stability of the extruded layer.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monique R Jackson whose telephone number is 703-308-0428. The examiner can normally be reached on Mondays-Thursdays, 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul J Thibodeau can be reached on 703-308-2367. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



mrj
September 30, 2002



Paul Thibodeau
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